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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/808,240

03/25/2004

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5020

466 7590 07/30/2007  
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EXAMINER

DO, CHAT C

ART UNIT

PAPER NUMBER

2193

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/808,240	<b>Applicant(s)</b> SHIMASAKI, SHINYA	
	<b>Examiner</b> Chat C. Do	<b>Art Unit</b> 2193	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 03/25/04; 05/16/05; 11/08/06; 12/08/06.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Information Disclosure Statement*

1. The information disclosure statement filed 12/08/2006 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

### *Claim Rejections - 35 USC § 101*

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 1-6 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-6 cite a generator for generating random numbers in accordance with a mathematical algorithm. In order for claims to be statutory, claims must either include a practical/physical application or a concrete, useful, and tangible result. However, claims 1-6 merely disclose steps/components for generating random numbers without further disclosing a practical/physical application or a useful and tangible result since the claims appear to preempt every substantial practical application of the idea embodied by the claim and there is no cited limitation in the claims that breathes sufficient life and meaning into the preamble so as to limit it to a particular practical application rather than

being so broad and sweeping as to cover every substantial practical application of the idea embodied therein. Therefore, claims 1-6 are directed to non-statutory subject matter.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Buer (U.S. 5,963,104).

Re claim 1, Buer discloses in Figures 1-6 a pseudo-random number generator (e.g. general architecture is seen in Figure 2) comprising: a linear feedback register (e.g. 50A and 50B in Figure 2) including a plurality of registers connected in series (e.g. there are 9 registers in each bank of LFSR 50A and 50B in Figure 2), a first logical operation circuit for taking logical operation of output data from the predetermined registers to deliver the result of the logical operation (e.g. output of XOR 60 to the out1' and out2' in Figure 2), and a second logical operation circuit (e.g. XORs 40A and 40B in Figure 2) for taking logical operation of input data supplied from the outside (e.g. from component 20 in Figure 2) and output data of first logical operation circuit (e.g. out1' and out2' in Figure 2) to supply any one of plurality of registers (e.g. first register in the LFSR in 50A or 50B in Figure 2) with the result of the logical operation (e.g. output of XORs 40A and 40B), linear feedback register generating pseudo-random numbers from registers (e.g.

210 and 220); and a signal generator (e.g. partially jitter clock 30 in Figure 2) for generating a shift clock for operating linear feedback register (E.g. CLK into the 50A and 50B in Figure 2), and for generating input data using a first clock at a constant period and a second clock synchronized to first clock (e.g. other clock is inputted into component 20 in Figure 2 for generating random clock/data as seen in Figure 2).

Re claim 2, Buer further discloses in Figures 1-6 an oscillator for generating a third clock which is unstable in frequency (e.g. output of any FF-x in Figure 3); and a Pre-SEED generator circuit for supplying linear feedback register with shift clock which is generated by taking logical operation of third clock and a fourth clock asynchronous to third clock, and for supplying linear feedback register with input data which comprises fourth clock (e.g. after the XOR logic in Figure 3).

Re claim 3, Buer further discloses in Figures 1-6 signal generator delivers shift clock which is one of first clock and a clock generated by dividing first clock, first clock and divided clock being switched at predetermined intervals (e.g. output of Figure 3 as either OUT1 or OUT2).

Re claim 4, Buer further discloses in Figures 1-6 an access controller for reading a random number generated by linear feedback register at a cycle different from the period of shift clock (e.g. by SYSCLK in Figure 2).

Re claim 5, Buer further discloses in Figures 1-6 a write circuit for providing logical operation of output data from linear feedback register and arbitrary data entered from the outside, wherein linear feedback register rewrites an initial value into registers

with data delivered from write circuit (e.g. by CLK into the LFSR 50A and 50B in Figure 2).

Re claim 6, Buer further discloses in Figures 1-6 linear feedback register comprises a number of registers larger than the number of bits of random number (e.g. there are bank of plurality of shifted registers in 50A and 50B wherein there is only a latch 100A or 100B for clock out as seen in Figure 2).

### *Conclusion*

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. U.S. Patent No. 3,777,278 to Majeau et al. disclose a pseudo-random frequency generator.
- b. U.S. Patent No. 4,719,643 to Beeman discloses a pseudo random framing generator circuit.
- c. U.S. Patent No. 5,963,104 to Buer discloses a standard cell ring oscillator of a non-deterministic randomizer circuit.
- d. U.S. Patent No. 6,263,082 to Ishimoto et al. disclose a pseudorandom number generation circuit and data communication system employing the same.
- e. U.S. Patent No. 6,963,888 to Weimerskirch discloses a method and apparatus for preventing noise from influencing a random number generator based on flip-flop meta-stability.

- f. U.S. Patent Publication Application No. 2004/0049525 to Hars discloses a feedback random number generation method and system.
- g. U.S. Patent Publication Application No. 2001/0033663 to Ishimoto et al. disclose a pseudorandom number generation circuit and data communication system employing the same.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chat C. Do whose telephone number is (571) 272-3721. The examiner can normally be reached on M => F from 7:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chat C. Do  
Examiner  
Art Unit 2193

July 20, 2007

